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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/379,081	08/23/1999	HOWARD E. LEVIN	SC10864TH	9847
23125	7590	07/02/2004	EXAMINER	
FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARMER LANE MD:TX32/PL02 AUSTIN, TX 78729			TRAN, PHUC H	
			ART UNIT	PAPER NUMBER
			2666	7

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/379,081

Applicant(s)

LEVIN ET AL.

Examiner

PHUC H TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13,20,21 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12 and 32 is/are rejected.
- 7) ☒ Claim(s) 5,13,20,21,33 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

#### **Content of Specification**

1. Appropriate correction is required (missing summary).
  - (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

#### ***Claim Rejections - 35 USC § 112***

2. Claims 6, 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claim 6, “the characteristic is a user defined input” (line 1) is indefinite. The term “user defined” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Regarding to claim 10, “wherein the method of claim1 is perform...” (lines 1-2) is indefinite for failing to particularly point out and distinctly of the claim.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 8-9, 11-12 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levin (U.S. Patent No. 6452907 B1) in view of Rybicki et al. (U.S. Patent No. 5781728).

- With respect to claims 1 and 32, Levin teaches a method comprising: initiating detection of a characteristic of a communication channel (col. 8, lines 38-40);

using the characteristic of the communication channel within a processing unit to configure data transmission along the communication channel in one of a first mode wherein upstream data transmission and downstream data transmission are sent in substantially non-overlapping frequency domains, and a second mode wherein upstream data transmission and downstream data transmission are sent in substantially overlapping frequency domains (e.g. the communication line 15 in Fig. 1 for upstream and downstream communicates).

Levin fails to teach the data transmission, which sent in substantially non-overlapping for first mode and overlapping for second mode. Rybicki teaches the data transmission transmits in overlap/non-overlap (col. 13, lines 4-10) for noise and interference on communication channel. Therefore, it would have been obvious to a person in ordinary skill in the art at the time of the

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invention was made to implement the non-overlapping and overlapping frequency domains for controlling the channels in communication.

- With respect to claim 3, Levin discloses wherein the characteristic is a data capacity of the communication channel (col. 3, lines 36-45).

- With respect to claim 4, Levin discloses wherein the characteristic is a noise level of the communication channel (col. 10, lines 1-3)

- With respect to claim 8, Levin teaches the characteristic is an amount of power received across the communication channel (col. 4, lines 18-20).

- With respect to claim 9, Levin teaches wherein the communication channel communicates discrete multi-tone (DMT) data (col. 1, line 55).

- With respect to claim 11, Levin discloses wherein the communication channel is processed occasionally during transmission to determine if the first and second modes should be changed between one another over time (e.g. periodically monitored during data frames in order to update equalizers and carrier characteristics associated with individual carrier, col. 2, lines 65-67).

- With respect to claim 12, Levin teaches wherein the communication channel communicates data via a plurality of frequency bins wherein the bins are segmented into a plurality of groups (col. 1, lines 58-60), the groups being prioritized so that bins associated with the first mode are utilized before the bins associated with the second mode.

5. Claims 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levin (U.S. Patent No. 6452907 B1) and Rybicki et al. (U.S. Patent No. 5781728) in further view of Laroia et al. (U.S. Patent No. 6628722 B1).

- With respect to claim 2, Levin discloses all the aspect of the claimed invention as set forth above but fails to teach wherein the first mode is a frequency division multiplexed mode (FDM) that uses at least one filter and the second mode is an echo cancellation mode that uses echo cancellation processing. Laroia teaches FDM (col. 1, line 45) and echo cancellation (col. 1, lines 41) for communication. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention was made to implement the FDM and echo cancellation into Levin for transmitting multiple signals are carried over a common transmission medium and canceling echo in communication.

- With respect to claim 7, Levin also fails to teach wherein the characteristic is a physical length of the communication channel. Laroia teaches physical length of the communication channel (col. 4, line 62) for controlling in communication channel. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the method of detecting the physical length of the communication channel for controlling the power to transmit data over the physical length.

***Allowable Subject Matter***

6. Claims 5, 13, 20-21 & 33-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form PTO-892.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUC H TRAN whose telephone number is (703) 308-7471. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RAO SEEMA can be reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuc Tran  
Assistant Examiner  
Art Unit 2664

P.t  
6/26/2004



DANSTON  
PATENT EXAMINER